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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF FORESTS AND WATERS

G. ALBERT STEWART, Secretary
CHARLES E. RYDER, Chief Engineer

THE FLOODS OF MAY 1942
IN THE
DELAWARE AND LACKAWANNA
RIVER BASINS

Prepared in cooperation with the
United States Department of Interior
Geological Survey

JOHN W. MANGAN
DISTRICT ENGINEER

HARRISBURG
1942

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THE FLOODS OF MAY 1942
IN THE
DELAWARE AND LACKAWANNA RIVER BASINS

During the first three weeks of May 1942, frequent heavy rains were general over the Delaware and Lackawanna River Basins. Particularly heavy storms occurred during the period May 20-23, which culminated in crest stages on most streams approximating or exceeding those of recent history.

On the Schuylkill River at Reading, the flood crest was the third highest recorded since 1757; it was the second highest in 156 years of record on the Lehigh River; and by far the highest known to present generations along the Lackawaxen River. Serious flooding also occurred along the Lackawanna and Upper Delaware tributaries.

The preliminary estimate of the direct losses attributed to the floods of May 1942 in Pennsylvania has been placed at \$15,000,000. Thirty-three persons lost their lives, 35 bridges were washed out and 22 state highway routes were damaged; 10 small dams failed; there was serious damage to railroads and some municipal water systems were temporarily placed out of commission.

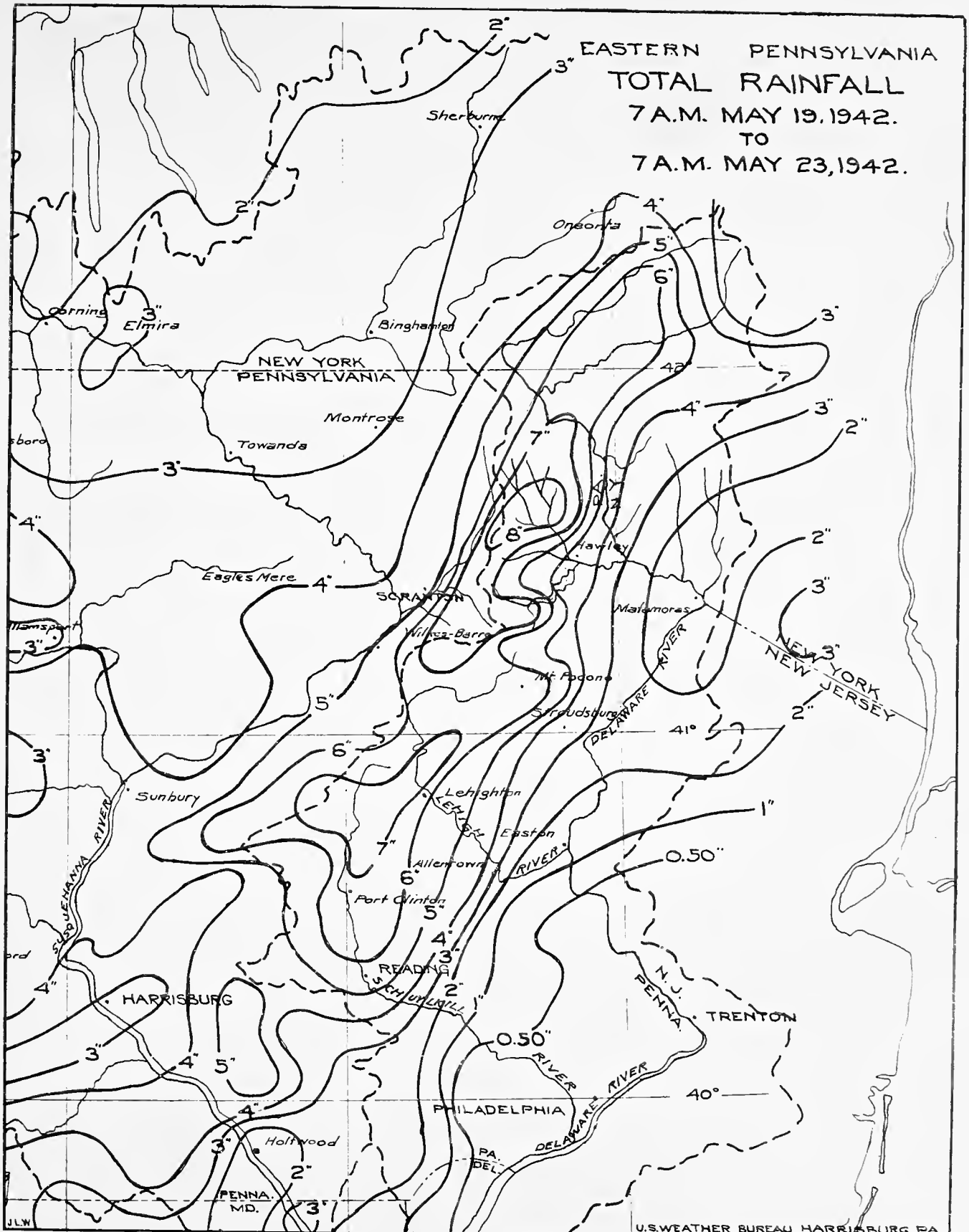
While many sections were seriously inundated by the flood, the greatest devastation occurred in the Lackawaxen River Basin, particularly Honesdale, where the central section of the town was inundated to a depth of 5 or 6 feet. In the Lackawaxen Basin alone, 24 persons were drowned and the damage has been estimated at \$6,000,000.

Meteorological analysis of the storm, daily and hourly records of precipitation from all gaging stations in the area and other pertinent information on rainfall has been collected by the Hydro-climatic Unit of the United States Weather Bureau in cooperation with the United States Army Engineers and the United States Department of Agriculture. The data are accessible at the United States Weather Bureau offices at

Albany, N. Y. and Harrisburg, Pa., and are available to cooperating parties in a special publication of this organization.

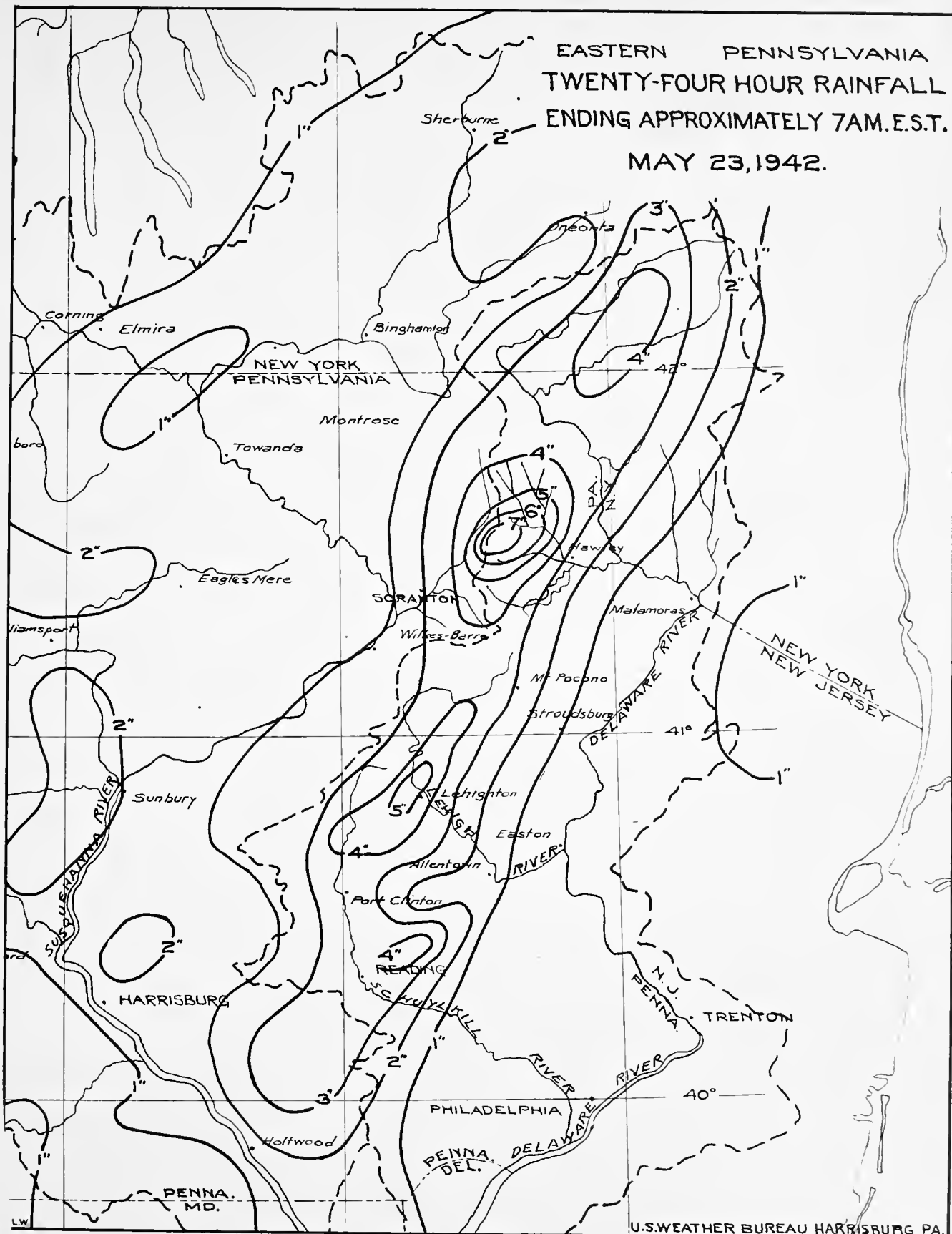
The maps of precipitation in this report were furnished by the United States Weather Bureau, Harrisburg, Pennsylvania.

EASTERN PENNSYLVANIA
TOTAL RAINFALL
7 A.M. MAY 19, 1942.
TO
7 A.M. MAY 23, 1942.



EASTERN PENNSYLVANIA
 TWENTY-FOUR HOUR RAINFALL
 ENDING APPROXIMATELY 7AM. E.S.T.

MAY 23, 1942.



FLOOD DISCHARGES

It is worthy of note that, although records indicate rainfall of as much as five to seven inches falling on May 22nd over some of the flood area, the maximum run-off rate was well below rates which occurred during past floods in other sections of Pennsylvania. A large portion of the area where the heaviest rainfall occurred is glacial, containing numerous lakes and ponds, so that a considerable portion of the rainfall was absorbed and the run-off retarded due to storage. In making miscellaneous spillway determinations of flood flow, the absence of recording gages on the dams, in most instances, prevented an accurate analysis of the relation between storage and run-off rates.

The results of the determination of the maximum discharges reached at regular gaging stations, at dams, and at miscellaneous points are presented in tabular form and in the diagram. In most instances, regular gaging stations in the Delaware River Basin in Pennsylvania and New York are listed regardless of whether flood stage was reached. They not only summarize pertinent information on the flood of May 1942, but also give, for comparative purposes, similar data for the greatest previously recorded flood. At regular gaging stations, where ratings were defined by current-meter measurements, the discharges are shown with their corresponding gage heights, which readily separate them from miscellaneous determinations made by other methods in the May 1942 flood.

The diagram shows all May 1942 flood discharge determinations in terms of second-feet per square mile plotted against their corresponding drainage areas. In addition, enveloping curves based upon all flood discharge records relating to Pennsylvania Streams made prior to the May 1942 flood are shown.

The enveloping curve for all drainage basins is the same as the curve developed by Mangan from records given in the special publication "Flood Discharge Records Relating to Pennsylvania Streams, 1938" and shown on pages 36 and 37 of that report.

The Delaware Basin enveloping curve is based on all flood discharge determinations in the Delaware Basin in Pennsylvania and New York and on the main Delaware River prior to the May 1942 flood. It will be noted that only two determinations made in May 1942 exceeded this curve; namely, Lackawaxen River at Hawley, Pa. and Equinunk Creek at Equinunk, Pa.

All flood determinations at locations in New York were furnished by the United States Geological Survey, Albany, New York, in cooperation with the New York City Board of Water Supply. The determinations at the three locations along the Delaware River (except Port Jervis) were furnished by the United States Geological Survey, Trenton, New Jersey, in cooperation with the New Jersey Water Policy Commission. All miscellaneous discharge determinations were analyzed and reviewed by Hollister Johnson of the United States Geological Survey before final values were accepted.

Records at the recently established gaging stations on the East Branch of Delaware River at Downsville, N. Y., Platte Kill at Dunraven, N. Y., and Neversink River at Neversink, N. Y. are not included in the tables.

FLOOD DISCHARGES
MAY 1942

Stream	Location	County	Drainage Area (sq. mi.)	Date of earliest record	Maximum previously recorded				Maximum May 22-24, 1942				Method of Determination
					Date	Gage height (feet)	Discharge		Day	Gage height (feet)	Discharge		
							c.f.s.	c.s.m.			c.f.s.	c.s.m.	
<u>SUSQUEHANNA BASIN</u>													
Lackawanna River	Stillwater Dam nr. Forest City, Pa.	Susquehanna	38.8						22		2,530	65	B
Lackawanna River	at Archbold, Pa.	Susquehanna	108	1940	Mar. 31, 1940	7.36	4,710	44	22	10.80	9,510	88	AD
Lackawanna River	at Old Forge, Pa.	Lackawanna	332	1936	Mar. 31, 1940	11.86	14,000	42	23	15.70	20,900	63	AD
Lackawanna River	at Duryee, Pa.	Luzerne	345						23		22,000	64	A
Spring Brook	Watres Dam at Rockdale, Pa.	Lackawanna	15.7								2,120	135	B
Spring Brook	Neobitt Dam nr. Rockdale, Pa.	Lackawanna	36.0								7,500	208	B
Spring Brook	Intake Dam nr. Moosic, Pa.	Lackawanna	43.2								8,920	206	B
<u>DELAWARE BASIN</u>													
E.Br.Delaware River	at Margaretville, N.Y.	Delaware	163	1937	Sept. 21, 1938	11.74	13,200	81	23	3.67	1,480	9.1	D
E.Br.Delaware River	at Herverd, N. Y.	Delaware	443	1934	Sept. 22, 1938	16.93	31,400	71	23	14.62	21,600	49	D
E.Br.Delaware River	at Fishs Eddy, N. Y.	Delaware	783	1903	Oct. 9, 1903	23.6	70,000	89	23	17.18	36,300	46	D
Delaware River	nr. Berryville, N. Y.	Sullivan	2,023	1936	Mar. 1936	20.5	96,000	47	23	23.19	122,000	60	AD
Delaware River	at Port Jervis, N. Y.	Orange	3,076	1841	Oct. 10, 1903	23.1	155,000	50	23	17.75	140,000	46	D
Delaware River	at Montague, N. J.	Sussex	3,469	1841	Oct. 10, 1903	31.1	*217,000	63	23	25.70	147,000	42	D
Delaware River	at Belvidere, N. J.	Warren	4,542	1781	Oct. 10, 1903	28.6	220,000	48	24	20.97	134,000	30	D
Delaware River	at Riegelsville, N.J.	Warren	6,344	1781	Oct. 10, 1903	35.9	275,000	43	24	27.50	164,000	26	D
Delaware River	at Trenton, N. J.	Mercer	6,796	1781	Oct. 10, 1903	20.7	295,000	43	24	13.35	161,000	24	D
Mill Brook	at Arena, N. Y.	Delaware	25.0	1937	Sept. 21, 1938	7.6	64,500	180	23	6.06	730	29	D
Tremper Kill	nr. Shavertown, N.Y.	Delaware	33.0	1937	Sept. 21, 1938	7.12	4,250	129	23	4.47	1,100	33	D
Terry Clove Kill	nr. Pepacton, N. Y.	Delaware	14.1	1937	Sept. 21, 1938	6.2	61,700	121	23	5.49	4,160	295	AD
Fall Clove Kill	nr. Pepacton, N. Y.	Delaware	10.9	1941					23	6.1	956	88	A
Downs Brook	at Downs, N. Y.	Delaware	17.4						23		4,940	284	A
Wilson Hollow Brook	at Downs, N. Y.	Delaware	8.5						23		850	100	A
Beaver Kill	at Craigie Clair, N.Y.	Sullivan	82	1937	Aug. 11, 1938	10.11	9,530	116	23	7.00	2,750	34	D
Beaver Kill	at Cooke Falls, N. Y.	Delaware	241	1913	Mar. 18, 1936	15.02	21,700	88	23	9.26	6,920	29	D
Willowmasc Creek	nr. Livingston Manor, N. Y.	Sullivan	63	1937	Aug. 11, 1938	7.87	6,200	98	23	4.61	2,290	36	D

FLOOD DISCHARGES
MAY 1942

Stream	Location	County	Drainage Area (sq.mi.)	Date of earliest record	Maximum previously recorded				Maximum May 22-24, 1942				Method of Determination
					Date	Gage height (feet)	Discharge		Day	Gage height (feet)	Discharge		
							c.f.s.	c.s.m.			c.f.s.	c.s.m.	
<u>DELAWARE BASIN</u> (continued)													
Little Beaver Kill	nr. Livingston Manor, N. Y.	Sullivan	19.8	1924	Aug. 26, 1928	8.7	2,500	126	23	4.06	820	41	D
Trout Brook	et Peakville, N. Y.	Delaware	18.4						23		3,320	180	A
Fish Creek	et Fishs Eddy, N. Y.	Delaware	11.4						23		2,510	220	A
W.Br. Delaware River	at Delhi, N. Y.	Delaware	142	1937	Sept. 21, 1938	8.81	8,940	63	23	7.48	5,280	37	D
W.Br. Delaware River	at Hale Eddy, N. Y.	Delaware	593	1903	Oct. 10, 1903	20.3	46,000	78	23	14.52	21,900	37	D
Little Delaware River	nr. Delhi, N. Y.	Delaware	49.8	1937	Sept. 21, 1938	8.5	3,280	66	23	6.93	2,580	52	ACD
Steele Brook	nr. Delhi, N. Y.	Delaware	5.4		July, 1935		2,850	528	23		973	180	B
Trout Creek	at Cennonsville, N.Y.	Delaware	49.5	1940	Aug. 1, 1941	8.79	3,470	70	23	7.72	2,390	48	D
Oquega Creek	at Deposit, N. Y.	Broome	66	1940	Dec. 28, 1940	5.52	1,580	24	23	7.21	2,500	38	AD
Shahavken Creek	nr. Starlight, Pa.	Wayne	13.0								3,350	258	A
Equinunk Creek	nr. Equinunk, Pa.	Wayne	57.4								18,800	328	C
Kinneyville Creek	et Lake Como, Pa.	Wayne	3.98						23		300	75	B
Hoolihan Brook	et Long Eddy, N. Y.	Delaware	4.6						23		1,660	361	A
Basket Creek	nr. Long Eddy, N. Y.	Sullivan	23.4						23		5,340	228	A
Calicoon Creek	at Calicoon, N. Y.	Sullivan	111	1940	Sept. 1, 1940	5.59	2,910	26	23	5.22	3,760	34	D
Lackawaxen River	at Hawley, Pa.	Wayne	290	1909	Mar. 18, 1936	13.9	27,600	95	23	20.13	250,000	172	AD
Waymart Br.	Stanton Pond, nr. Waymart, Pa.	Wayne	2.67								438	164	B
Lackawaxen River	Keen Pond, nr. Waymart, Pa.	Wayne	15.1								2,890	191	B
Waymart Br.	nr. Waymart, Pa.	Wayne	28.2								8,770	311	B
W.Br. Dyberry Creek	et Tanners Falls, Pa.	Wayne	0.72								157	218	B
Unnamed Creek	nr. Tanners Falls, Pa.	Wayne	12.3								1,920	156	B
Carley Brook	nr. Honeadale, Pa.	Wayne	3.06						23		512	167	B
Middle Creek	Brunson Dam nr. South Caneau, Pa.	Wayne	5.19						23		1,910	368	B
Middle Creek	Lake Quinaigemund nr. South Caneau, Pa.	Wayne	8.59								1,110	129	B
Wangum Creek	nr. Hawley, Pa.	Wayne	68.9								7,720	112	A
W.Br. Wallenpaupack Creek	nr. Newfoundland, Pa.	Wayne	75.4								10,600	141	A
Wallenpaupack Creek	nr. Newfoundland, Pa.	Wayne											

FLOOD DISCHARGES
MAY 1942

Stream	Location	County	Drainage Area (sq. mi.)	Date of earliest record	Maximum previously recorded				Maximum May 22-24, 1942				Method of Determination
					Date	Gage height (feet)	Discharge		Day	Gage height (feet)	Discharge		
							c.f.s.	c.s.m.			c.f.s.	c.s.m.	
DELAWARE BASIN (continued)													
Neversink River	at Hells Mills, N. Y.	Sullivan	68	1937	Oct. 23, 1937	10.37	13,000	191	23	4.08	2,830	42	D
Neversink River	at Woodbourne, N. Y.	Sullivan	113	1937	July 22, 1938	11.2	12,300	109	23	6.02	3,690	33	D
Neversink River	at Oakland Valley, N. Y.	Sullivan	222	1928	Aug. 24, 1933	12.61	20,000	90	23	6.58	4,760	21	D
Neversink River	at Codeffroy, N. Y.	Orange	302	1937	July 22, 1938	10.73	16,100	53	23	7.04	4,880	16	D
Bushkill Creek	at Shoemakers, Pa.	Monroe	117	1908	July 24, 1920	7.2	3,910	33	23	4.18	1,580	14	D
Lehigh River	Harvey Lake at Gouldsboro, Pa.	Wayne	3.61						22		281	78	B
Lehigh River	West End Pond at Gouldsboro, Pa.	Wayne	16.6						22		357	22	B
Lehigh River	at Stoddardsville, Pa.	Luzerne	103						22		9,790	95	C
Lehigh River	at White Haven, Pa.	Luzerne	311						22		25,400	82	B
Lehigh River	at Tannery, Pa.	Carbon	322	1914	Mar. 12, 1936	13.34	20,000	62	22	16.51	29,600	92	D
Lehigh River	at Bowmanstown, Pa.	Carbon	742						23		54,400	73	B
Lehigh River	at Bethlehem, Pa.	Northampton	1,280	1786	Feb. 28, 1902	24.9	85,000	66	23	23.47	92,000	72	D
Tobyhanna Creek	nr. Blakeslee, Pa.	Monroe	118						23		7,070	60	A
Bear Creek	at Bear Creek, Pa.	Luzerne	35.0						22		6,010	172	B
Black Creek	nr. Weatherly, Pa.	Carbon	55.0								8,160	148	A
Pohopoco Creek	nr. Parryville, Pa.	Carbon	110	1940	July 8, 1941	4.85	2,280	21	23	7.42	5,300	48	D
Wild Creek	at Hatchery, Pa.	Carbon	16.6	1941	July 8, 1941	5.50	1,000	60	23	6.00	1,250	75	D
Wild Creek	at Wild Creek Reservoir, Pa.	Carbon	22.2						23		1,440	65	B
Aquashicola Creek	at Palmerton, Pa.	Carbon	77.0	1939	Mar. 15, 1940	10.03	4,550	59	23	8.10	2,910	38	D
Tohickon Creek	nr. Pipersville, Pa.	Bucks	97.4	1935	Sept. 21, 1938	9.11	11,000	113	23	2.06	140	1.4	D
Neshaminy Creek	nr. Langhorne, Pa.	Bucks	210	1933	Aug. 23, 1933	17.3	30,000	143	22	1.09	63	0.3	CD
Schuylkill River	at Pottstown, Pa.	Montgomery	1,147	1893	Feb. 28, 1902	21.0	53,900	47	23	20.15	50,800	44	D
Schuylkill River	at Philadelphia, Pa.	Philadelphia	1,893	1869	Oct. 4, 1869	17.0	135,000	71	24	12.44	60,300	32	D
Little Schuylkill River	at Tamaqua, Pa.	Schuylkill	42.9	1916	Aug. 24, 1933	7.50	3,740	87	22	7.94	5,810	135	AD
Little Schuylkill River	nr. Tamaqua, Pa.	Schuylkill	58.8						22		7,960	135	A
Cocconias Creek	nr. West Lawn, Pa.	Berks	21.0								3,540	169	B

FLOOD DISCHARGES
MAY 1942

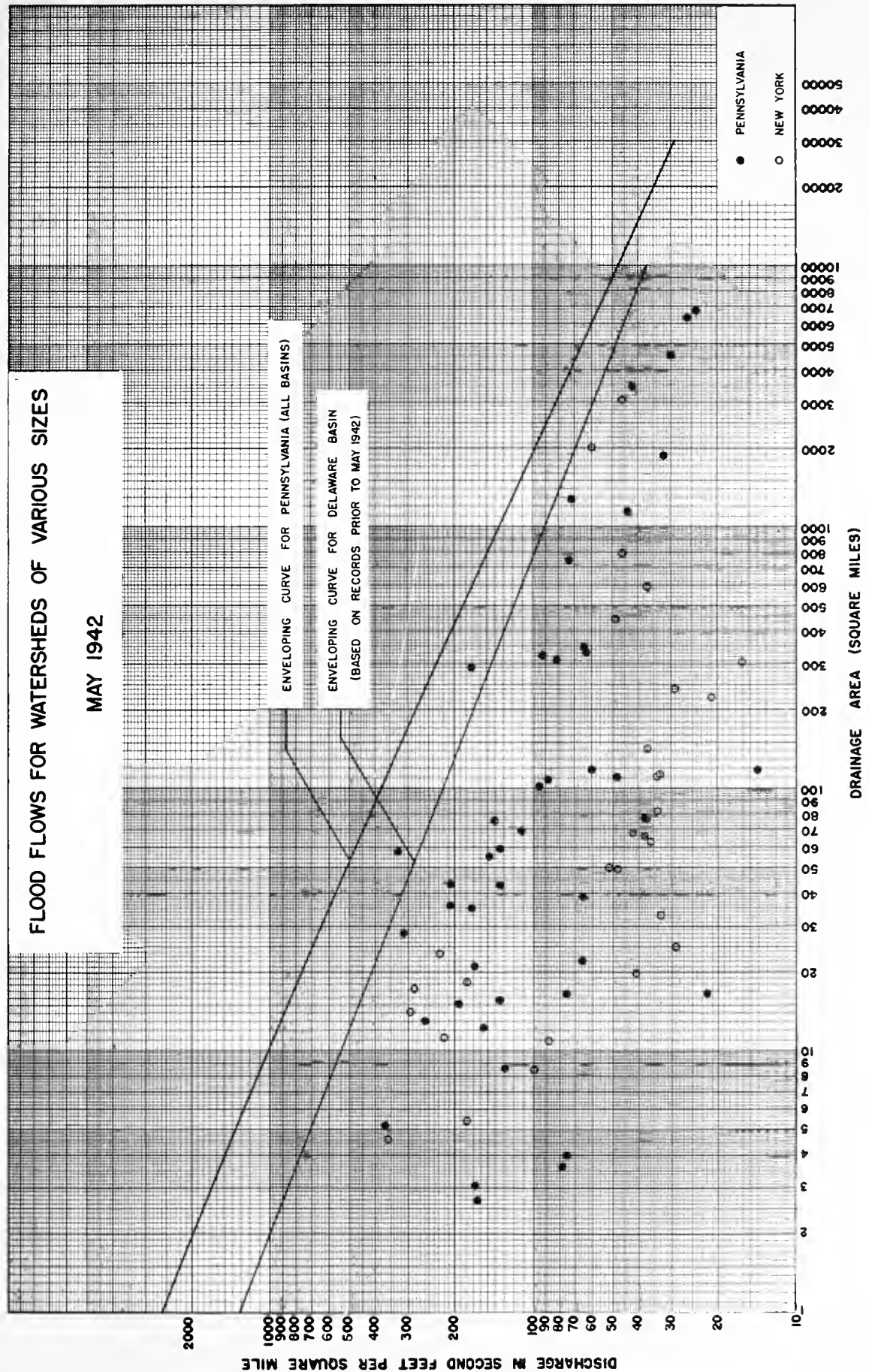
Stream	Location	County	Drainage Area (sq.mi.)	Date of earliest record	Maximum previously recorded				Maximum May 22-24, 1942				Method of Determination
					Date	Gage height (feet)	Discharge		Day	Gage height (feet)	Discharge		
							c.f.s.	c.s.m.			c.f.s.	c.s.m.	
DELAWARE BASIN (Continued)													
Parklomen Creek	et Graters Ford, Pa.	Montgomery	279	1914	July 9, 1935	18.26	41,200	148	23	3.09	1,110	4.0	D
Ridley Creek	at Moylan, Pa.	Delaware	31.9	1931	July 23, 1938	8.16	4,500	141	23	1.16	9.3	0.3	D
Chester Creek	nr. Chester, Pa.	Delaware	61.1	1931	Aug. 23, 1933	11.48	4,270	70	23	1.00	41	0.7	D
Brandywine Creek	at Chadds Ford, Pa.	Delaware	287	1911	March 1920	15.0	30,500	106	23	6.44	2,770	10	D

METHOD OF DETERMINATION

- A-Slope-Area.
B-Flow over Spillway.
C-Contracted-opening.
D-Rating Curve from Current Meter Measurements.
*-Estimate.
a-Discharge exceeds Delaware Basin enveloping curve.
b-At former site and datum.
c-Revised from 23.3 feet on Basis of Information from U. S. Weather Bureau in 1940.

Note.-Symbol D used with another symbol indicates determination from rating curve extended, based on other methods of determination.

May 31, 1942



FLOOD HEIGHTS

The tabulations which follow give the crest heights along the Delaware, Lehigh, Schuylkill, Lackawanna and Lackawaxen Rivers not only for the May 1942 flood but, for comparative purposes, all previously known recorded major floods along those rivers.

It should be borne in mind that there is always some doubt as to the accuracy of the early flood heights. In later years, particularly since the turn of the century, gages established on most of our important rivers where daily readings were obtained, with more frequent observations at times of floods. Today, all principal river stations are equipped with water-stage recorders that furnish continuous records of river heights and eliminate all uncertainty as to accuracy.

From the greater number of flood height records listed for the more recent years one might mistakenly infer that floods have been increasing in number if not in magnitude, particularly since the latter part of the 19th century. There is no evidence that floods occurred less frequently in the earlier part of the period covered by the record. A more logical explanation of the predominance of records in recent years is that, in the earlier period, the greatest floods made a more lasting impression and consequently the records have been preserved; whereas those of lesser significance were lost in the intervening years.

River distances in miles are given in the tables for all locations in order that crest elevations may be interpolated for intervening points. Flood profiles may also be developed from the data if desired.

The crest heights are shown as elevations in feet above mean sea level, Sandy Hook Datum. The elevations are based on the latest information available as to the results of adjustments to the precise

level nets. All elevations in any one column were taken on the same structure or group of structures.

At locations where river gages have been maintained, the zero of the gage and the flood stage are given where this information is known.

The Water Supply Commission of Pennsylvania made an exhaustive study of historic floods in Pennsylvania and published the results of their work in Part VIII of the Water Resources Inventory Report in 1914. Many of the flood heights of the earlier floods given in the latter publication were converted into elevations above mean sea level for use in this report.

The United States Engineer Offices of Philadelphia and Wilkes-Barre have aided in the preparation of the tabulations by furnishing many flood elevations obtained in their districts.

August 7, 1942

ELEVATIONS OF MAJOR FLOODS
DELAWARE RIVER BASIN

Delaware River, (Morrisville, Pa. to Stockton, N.J.)

Miles from initial point	-0.15	0.0	3.5	5.05	5.2	7.8	8.8	13.5	13.7	14.3	14.4	17.5	18.0
Zero of gage		7.77	0.00							0.11			0.04
Flood Stage		19.8											
Date	0.15 mi. below Calhoun Street MORRISVILLE, PA. 465 N. Delmar Ave.	Calhoun St. TRENTON, N.J. Gage	YARDLEY, PA. Highway Bridge	SCUDDER'S FALLS, N. J. Bungalow Colony	SCUDDER'S FALLS, N. J. White's Farm	0.4 mi. above Washington Crossing, N. J. Steele residence	TITUSVILLE, N. J. Canning factory	NEW HOPE, PA. Union Paper Mill	NEW HOPE, PA. Canal Lock	LAMBERTVILLE, N. J. Highway Bridge	NEW HOPE, PA. Borden residence	STOCKTON, N. J. Highway Bridge	STOCKTON, N. J. Smith Mill
1786, October.....													
1841, January.....													
1846, March.....													
1857, May.....													
1862, June.....													
1865, March.....													
1869, October.....													
1878, December.....													
1895, April.....													
1901, December.....													
1902, March.....													
1903, October.....	27.8		39.1	44.4	44.8	a46.2 a47.4 52.0	a49.4 53.8	66.8	68.3	65.1 66.1 70.1	70.3	81.7	77.7 77.7 79.2 80.1 84.2
1904, March.....	*30.3	*30.6								61.8			
1907, December.....		21.1											
1913, March.....		19.8											
1914, March.....													
1923, March.....													
1924, April.....		19.6								61.1			
1924, October.....		20.3								62.6			
1925, February.....		20.8											
1933, August.....		20.4								62.0			
1934, March.....		*22.0								60.0			
1935, July.....		19.5											
1936, January.....		*23.9											
1936, March 12-13.		23.1								65.3			
1936, March 18-19.		24.4								67.1			
1938, September...	23.7	19.2	35.8	41.7		46.7 48.6	48.6 50.6	63.8	64.6	65.3 67.1 60.4 62.6 63.3	67.2	79.7 70.4 73.0 74.8	81.8
1940, April.....		20.6	29.8			42.7							
1942, May.....		21.1	32.4			43.5							

*Affected by ice.
aDate of flood somewhat doubtful.

ELEVATIONS OF MAJOR FLOODS
DELAWARE RIVER BASIN

Delaware River, (Lumberville, Pa. to Easton, Pa.)

Miles from initial point	20.0	21.1	22.6	25.5	27.6	27.9	33.1	40.0	48.5	48.6	48.9	49.3	49.7
Zero of Gage			-0.48				99.83	125.12			100.21		
Flood Stage											122.2		
Date	LUMBERVILLE, PA. Taylor Mill	LUMBERVILLE, PA. Lumberville Bridge 0.2 mi. above the Lumberman's Lumber Mill	POINT PLEASANT, PA. Highway Bridge	S. J. Ridge Store TREASURE ISLAND, PA.	ERWINNA, PA. Storer Mill	1.8 mi. below French Town Bridge ERWINNA, PA. Erwine Road boat house	MILFORD, PA. Highway Bridge	Highway Bridge RIEGELVILLE, N. J. Gage	ERWINNA, PA. Kaubler Brewery	0.2 mi. below mouth Lehigh River PHILIPSBURG, N. J. C.R.R. of N. J. Bridge	Old Highway Bridge EASTON, PA. W. B. Gage	EASTON, PA. Wilson Bros. Mfg. Co.	EASTON, PA. Easton Pumping Sta.
1786, October....	87.0			107.2			132.5						
1841, January....							127.2						
1846, March.....							131.8						
1857, May.....	86.8	92.0		106.5			128.5						
1862, June.....		88.1											
1865, March.....		90.4											
1869, October....		89.5		104.0			129.5						
1878, December...		89.5		104.0			129.1						
1895, April.....	84.5	89.5		105.0	110.3		130.2						
1901, December...		90.7		106.5	111.6		131.2						
1902, March.....	86.6	92.0		110.6	112.4		135.6						
1903, October....		96.1	101.7	110.6	117.2	118.4		161.0	190.4	191.2	193.5	194.3	194.8
1904, March.....													
1907, December...							127.7						
1913, March.....								148.1					
1914, March.....								150.1					
1923, March.....								148.5					
1924, April.....								148.2					
1924, October...								149.3					
1925, February...								148.9					
1933, August.....								150.1					
1934, March.....								143.3					
1935, July.....								148.5					
1936, January....								134.3					
1936, March 12-13		92.3	97.0	106.2			130.9	154.9	186.4	182.9	185.7	189.5	190.0
1936, March 18-19	88.9	94.3	98.9	108.1			133.0	157.6			188.1		
1938, September...			90.6				125.7	148.1			181.4		
1940, April.....			93.6				128.1	151.6			183.2		
1942, May.....			94.6				129.2	152.6					

ELEVATIONS OF MAJOR FLOODS
DELAWARE RIVER BASIN

Delaware River, (Belvidere, N. J. to Equinunk, Pa.)

Miles from initial point	62.8	72.4	72.5	72.6	77.5	79.6	80.1	91.6	103.1	111.8	120.0	145.0	155.5	168.8	168.9
Zero of Gage	226.43		199.53						286.06	299.93	415.35	600.38			
Flood Stage												433.4			
Date	0.2 mi. below Belvidere Bridge Belvidere, N. J. Gage	PORTLAND, PA. Barber Shop	PORTLAND, PA. Highway Bridge	COLUMBIA, N. J. Washington & Columbia Sts.	DELAWARE WATER GAP, PA. Railroad Station	SHAWNEE, PA. Buckwood Inn	SHAWNEE, PA. Worthington residence	BUSHKILL, PA. Flick Farm	DINGMAN'S FERRY, PA. Highway Bridge	MILFORD, PA. Highway Bridge	Highway Bridge PORT JERVIS, N. Y. Gage	BARRYVILLE, N. Y. 1.6 miles above mouth of Lackawanna River (Gage)	NARROWSBURG, N. Y.	CALLICOON, N. Y.	EQUINUNK, PA.
1786, October.....															
1841, January.....															
1846, March.....															
1857, May.....															
1862, June.....															
1865, March.....															
1869, October.....															
1878, December.....															
1885, April.....															
1901, December.....															
1902, March.....															
1903, October.....	255.1	295.8	296.1	296.2	321.6		326.3	357.6	384.4	405.4	438.6 *440.8			761.8 758.4	871.9
1904, March.....															
1907, December.....															
1913, March.....															
1914, March.....															
1923, March.....															
1924, April.....	244.5														
1924, October.....	245.8														
1925, February.....	244.4														
1933, August.....	246.4														
1934, March.....	243.7														
1935, July.....	240.0														
1936, January.....	233.4														
1936, Mar. 12-13..	248.7														
1936, Mar. 18-19..	251.5														
1939, September..	245.7														
1940, April.....	247.6	291.7	285.3	316.3		319.9		352.9	379.6	400.1	431.4		694.8	753.4	863.6
1942, May.....	247.4	287.6	297.6						372.9	392.3	430.3	620.9	696.0	752.9	861.1
									374.8	394.3	430.9	623.6			
									375.5	395.6	433.1				

*Affected by ice.

ELEVATIONS OF MAJOR FLOODS
DELAWARE RIVER BASIN

West and East Branches of Delaware River

	West Branch			East Branch		
Miles above mouth	1.9	9.7	60	11.1	17.4	51
Zero of Gage		946.34	1,345.97	950.80	1,007.96	1,303.48
Date	HANCOCK, N. Y. R. R. Bridge junction with East Branch	HALE EDDY, N. Y. Highway Bridge (Gage)	DELHI, N. Y.	FISH EDDY, N. Y.	HARVARD, N. Y.	MARGARETSVILLE, N. Y.
1786, October.....						
1841, January.....						
1846, March.....						
1857, May.....						
1852, June.....						
1865, March.....						
1869, October.....						
1878, December.....						
1895, April.....						
1901, December.....						
1902, March.....						
1903, October.....		966.6		974.4		
1904, March.....						
1907, December.....						
1913, March.....		961.6		968.2		
1914, March.....		960.9		968.2		
1923, March.....		956.3				
1924, April.....						
1924, Sept-Oct.....		962.1		969.8		
1925, February.....						
1933, August.....				971.4		
1934, March.....						
1935, July.....		959.0				
1936, January.....						
1936, Mar. 12-13.....						
1936, Mar. 18-19.....		960.6		970.0	1,023.5	
1938, September.....		961.9	1,354.8	969.0	1,024.9	1,315.2
1940, March.....		961.3	1,353.9	967.8	1,023.0	1,314.0
1942, May.....	907.3	960.9	1,353.4	968.0	1,022.6	1,307.2

ELEVATIONS OF MAJOR FLOODS
DELAWARE RIVER BASIN

Lackawaxen River
Dyberry Creek

Miles from Mouth	Location	March 1936	Sept. 1938	May 1942
Lackawaxen River				
0.0	Mouth; junction with Delaware River			
4.2	Rowlands; highway bridge			695.5
13.4	P. P. & L. Co.; hydro-electric plant	828.8	824.4	841.2
16.0	Hawley; recorder gage	882.6	876.6	888.9
16.2	Hawley; Paupack St. & Falls Ave.			891.7
16.3	Hawley; highway bridge; Welwood St.	887.8		893.2
16.7	Hawley; Church St.			896.4
16.9	Mouth of Middle Creek			
17.1	Hawley; Main St. near Erie R. R.			901.6
17.4	West Hawley; Riverside Bridge	900.8	898.0	907.9
20.9	White Mills; highway bridge			932.1
24.79	Mouth of Cerley Brook	960.2	956.4	
25.30	Honesdale; Florence Mills	964.6		972.3
25.55	Honesdale; Fourth St.	970.0	965.4	974.8
25.72	Honesdale; Sixth St.	970.8	966.0	977.6
25.83	Honesdale; Eighth St.	972.3	968.6	979.4
25.98	Honesdale; Court House	972.5		979.6
26.15	Junction with Dyberry Creek			
26.28	Honesdale; Court St. footbridge	977.4	974.0	982.7
26.39	Honesdale; Main Street			984.3
26.66	Honesdale; School	982.6		988.1
27.15	Honesdale; Clark St.	994.4	990.9	999.8
27.45		1,003.9		1,007.8
Dyberry Creek				
0.00	Junction with Lackawaxen River			
.04	Honesdale; highway bridge	977.1	971.4	984.1
.31	Honesdale; Fifteenth St.	978.4		984.5
.58	Honesdale; Eighteenth St.	978.6	974.1	985.2
.73	Honesdale; Stenton St.	979.6		985.8
.88	Penna. Dept. of Highways shed	979.5	974.7	985.9
1.83				986.6
2.08	Highway bridge	979.5	975.0	986.8

Note.- Three greatest floods since 1908.

ELEVATIONS OF MAJOR FLOODS
DELAWARE RIVER BASIN

Lehigh River (Bethlehem to Allentown)

Miles from initial point	-1.45	-0.8	-0.7	0.0	0.15	0.3	0.35	0.35	0.35	0.55	5.2	5.2	5.2
Zero of Gage		208.60		210.94									
Flood Stage				226.9									
Date	BETHLEHEM, PA. Bath. Steel Co.	BETHLEHEM, PA. Recorder Gage	BETHLEHEM, PA. Beth. Steel Co.	BETHLEHEM, PA. New St. Bridge	BETHLEHEM, PA. Reeb Millwork Co.	BETHLEHEM, PA. Fitch Milling Co.	Hill to Hill Bridge down stream side. BETHLEHEM, PA.	Hill to Hill Bridge upstream side. BETHLEHEM, PA.	Hill to Hill Petting Graphite BETHLEHEM, PA.	Sure-fit Slip Cover Co. BETHLEHEM, PA. Sagmoit Silk Mill	C.R.R. of N.J. Sta. Jordan Creek. ALLENTOWN, PA. Hamilton St.	Below Dam #7 ALLENTOWN, PA. Hamilton St.	ALLENTOWN, PA. Above Dam #7
1786, October..							228.8						256.4
1839, January..							226.8						257.3
1841, January..							233.8						258.4
1850, Sept.....						235.3	230.8						
1862, June.....						234.4	230.8						
1869, October..							230.8						
1894, May.....							231.3						
1901, December.							236.3						
1902, February.	228.7		232.7	235.8	236.0	236.2	236.5	236.7	237.3	257.4	257.5		
1920, March....						228.9	231.3			253.5			
1924, Sept.....						229.5	236.3						
1926, November.						228.5	236.3						
1933, August....	224.3	227.3	228.3			232.9	236.3	233.2		252.6	248.3		255.8
1935, July.....		227.1	228.1			232.6	236.3	233.0		254.7	*250.0		255.8
1936, March 12.		225.6		229.8		230.8	236.3	231.2		250.2	251.2		255.1
1936, March 18.		224.3	233.4	236.5	236.9	229.8	237.2	238.1	231.5	249.6			254.8
1942, May.....	229.4	232.1					237.5	238.6	238.6	256.6	256.2		260.1

*Affected by dam failure.
d0.1 Mile above New Street Bridge.

ELEVATIONS OF MAJOR FLOODS
DELAWARE RIVER BASIN
Lehigh River (Catasauqua to White Haven)

Miles from initial point	9.6	11.1	14.4	16.8	23.2	28.3	31.0	34.8	37.4	57.3	57.4	59.2
Zero of Gage							443.9			1,029.23	1,041.80	
Flood Stage							452.9					
Date	CATASAUQUA, PA. Above Dam #6	0.35 mi. above Coplay Street Bridge NORTHAMPTON, PA. Hungarian Hall	LAURYS, PA. Above Dam #5	TREIGHTERS, PA. Above Dam #4	LEHIGH GAP Above Dam #3	BOWMANSTOWN, PA. Above Dam #2	Leighton WEISSPORT, PA. Highway Bridge	MAUCH CHUNK, PA. Above Dam #1	GLEN-ONOKA, PA. C.R.R. of N.J. Tunnel	TANNER, PA. Highway Bridge	TANNER, PA. Recorder Gage	WHITE HAVEN, PA. Above Dam
1786, October..												
1839, January..												
1841, January..												
1850, Sept.....												
1862, June.....												
1889, October..												
1894, May.....												
1901, December.												
1902, February.	287.0		326.1	341.7	388.3	439.0	464.7	535.0	589.8	cl,037.9	1,054.3	1,123.9
1920, March....	288.6			343.1	389.9	440.2		537.1		1,042.4	1,054.9	1,123.9
1924, Sept.....										1,044.2	1,055.1	1,124.0
1926, November.											1,054.8	1,123.9
1933, August....		289.7	325.4	341.6	386.0	456.3	460.8	*b533.2			1,058.3	1,123.9
1935, July.....	284.1		324.8	340.5	385.2	435.9	459.8	a529.9				
1936, March 12.	283.8	288.4	323.6	340.5		435.4		526.4				
1936, March 18.	282.9		322.6	340.2				525.3				
1942, May.....		297.3	328.1			440.5	464.6	*532.2	592.1	1,055.4		

*Affected by dam failure.
aAffected by Mauch Chunk Creek.
bDam not since rebuilt.
cAffected by ice.

ELEVATIONS OF MAJOR FLOODS
DELAWARE RIVER BASIN

Schuylkill River

Miles from Mouth	8.4	15.5	20.0	23.2	35.2	52.4	73.7	95.9	99.1	113.1	118.1
Zero of Gage	5.23					117.81	189.50		385.53		599.28
Flood Stage							199.50		410.6		
Date	PHILADELPHIA, PA. Fairmount Dam	FLAT ROCK DAM near Manayunk	CONSHOHOCKEN, PA. Dam	NORRISTOWN, PA. Dam	PHOENIXVILLE, PA. Highway Bridge	POTTSTOWN, PA. Hanover St. Bridge	READING, PA. Penn St. Bridge	HAMBURG, PA. Highway Bridge	PORT CLINTON, PA. R. R. Station	SCHUYLKILL HAVEN, PA. Columbia Street	POTTSTOWN, PA. Palo Alto Hy. Bridge
1757, July.....											
1786, October.....											
1841, January.....											
1850, July.....					90.4						
1850, September.....					96.9						
1862, June.....					93.8						
1869, October.....		50.6	61.7	68.4	92.2						
1894, May.....		48.0		66.1	93.3						
1902, Feb.-Mar.....	22.2										
1904, March.....	20.0										
1920, March.....						138.8					
1924, Sept.-Oct.....											
1933, August.....	19.9	48.1									
1935, July.....	19.3	47.4									
1936, Mar. 12.....	16.8	44.6	52.0	60.5	86.9						
1942, May.....	17.7	46.0	57.9	65.1	91.3			353.3	398.3	503.9	608.1
						138.0	209.4			508.0	

*Affected by ice.

FLOOD ELEVATIONS
SUSQUEHANNA RIVER BASIN
LACKAWANNA RIVER

Miles from Mouth	Location	March 1940 (feet)	May 1942 (feet)
0.0	Mouth		
.8	Duryea, Stevenson St. Bridge (D.S.)		565.21
3.2	Old Forge (gage); 150 feet above D.L. & W.R.R. bridge	606.94	610.78
3.9	Moosic (gage); River St. Bridge		632.06
10.8	Scranton; Carbon (Olive) St. Bridge; Old U.S.W.B. gage		693.05
11.9	Scranton; Albright St. Bridge; new U.S.W.B. gage	694.75	697.35
17.5	Olyphant (gage); West Lackewanne Street Bridge	766.61	768.38
23.2	Archbeld (gage); half mile above mouth of White Oak Run	896.53	899.97
29.1	Carbondale; D & H R.R. Station		1,046.70
36.1	Forest City (gage); 4.8 miles above mouth of Elk Creek	1,429.02	1,430.64
36.5	Forest City (gage); dam of Scranton-Spring Brook Water Co.		1,472.41

Note.- Flood of March 1936 reached an elevation of 765.31 feet at Olyphant.

~~4-11-74~~ AUG 11 1974
~~4-11-74~~ APR 11 1974

Gaylord
PAMPHLET BINDER
Syracuse, N. Y.
Stockton, Calif.



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Aaron Bldg.

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Pennsylvania Dept of Forests
and Waters

The floods of May 1942

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